

Surge protection device - S-PT-EX(I)-24DC - 2880671

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Surge protection in the IP67 screw-on module for measuring sensors in intrinsically safe circuits, direct mounting with M20 x 1.5 outer thread, cable gland for the signal cable, two-stage protective circuit. HART-compatible.

Product Features

- Arresters in hexagonal pipe with various outer threads



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	380.0 g
Custom tariff number	85363010
Country of origin	Germany

Technical data

Dimensions

Height	34 mm
Width	34 mm
Depth	137 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 50 °C
Degree of protection	IP67

General

Housing material	Zinc die-cast
Flammability rating according to UL 94	V-0
Color	silver

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Technical data

General

Standards for clearances and creepage distances	IEC 60664-1
	EN 60079-0
	EN 60079-11
Mounting type	cl screw connection
Type	Screw-in module
Number of positions	3
Direction of action	Line-Line & Line-Earth Ground

Protective circuit

IEC test classification	C1
	C2
	C3
	D1
Nominal voltage U_N	24 V DC
Maximum continuous voltage U_C	30 V DC
	21 V AC
Maximum continuous voltage U_C (wire-wire)	30 V DC
	21 V AC
Nominal current I_N	350 mA (50 °C)
Operating effective current I_C at U_C	$\leq 10 \mu A$
Residual current I_{PE}	$\leq 2 \mu A$
Nominal discharge current I_n (8/20) μs (Core-Core)	10 kA
Nominal discharge current I_n (8/20) μs (Core-Earth)	10 kA
Nominal discharge current I_n (8/20) μs (Shield-Earth)	10 kA (optional)
Max. discharge current I_{max} (8/20) μs maximum (Core-Core)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (Core-Earth)	10 kA
Max. discharge current I_{max} (8/20) μs maximum (Shield-Earth)	10 kA
Nominal pulse current I_{an} (10/1000) μs (Core-Core)	30 A
Nominal pulse current I_{an} (10/1000) μs (Core-Earth)	100 A
Nominal pulse current I_{an} (10/1000) μs (Shield-Earth)	100 A
Impulse discharge current (10/350) μs , peak value I_{imp}	1 kA
Output voltage limitation at 1 kV/ μs (Core-Core) spike	$\leq 50 V$
Output voltage limitation at 1 kV/ μs (Core-Earth) spike	$\leq 1.4 kV$ (Direct grounding)
Output voltage limitation at 1 kV/ μs (Shield-Earth) spike	$\leq 600 V$ (optional)
Output voltage limitation at 1 kV/ μs (Core-Core) static	$\leq 50 V$
Output voltage limitation at 1 kV/ μs (Core-Earth) static	$\leq 1.4 kV$ (Direct grounding)
Residual voltage at I_n (conductor-conductor)	$\leq 50 V$

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Protective circuit

Residual voltage with I_{an} (10/1000) μ s (conductor-conductor)	≤ 50 V
Voltage protection level U_p (core-core)	≤ 55 V (C2 -5 kA)
	≤ 50 V (C1 - 250 A)
	≤ 50 V (C3 - 25 A)
	≤ 80 V (D1 - 1 kA)
Voltage protection level U_p (core-ground)	≤ 1.4 kV (C2 -5 kA, direct grounding)
	≤ 1.4 kV (C1 - 500 A)
	≤ 1.4 kV (C3 - 100 A)
	≤ 1.4 kV (D1 - 1 kA)
Voltage protection level U_p (shield-ground)	≤ 650 V (C2 -5 kA optional)
Response time t_A (Core-Core)	≤ 1 ns
Response time t_A (Core-Earth)	≤ 100 ns
Response time t_A (Shield-Earth)	≤ 100 ns
Input attenuation aE, sym.	typ. 0.5 dB (≤ 1 MHz / 50 Ω)
	typ. 0.2 dB (Up to 400 kHz, 150 Ω)
Cut-off frequency f_g (3 dB), sym. in 50 Ohm system	typ. 6 MHz
Cut-off frequency f_g (3 dB), sym. in 150 Ohm system	typ. 2.5 MHz
Resistance in series	2.2 $\Omega \pm 10$ %
Surge protection fault message	None
Impulse durability (conductor-conductor)	C2 - 10 kV/5 kA
	D1 - 1 kA
Impulse durability (conductor-ground)	C2 - 10 kV/5 kA
	D1 - 1 kA
Impulse durability (shield-ground)	C2 - 10 kV / 5 kA
	D1 - 1 kA
Alternating current carrying capacity (conductor-ground)	10 A - 1 s
Alternating current carrying capacity (shield-ground)	10 A - 1 s

Connection data

Connection name	Input/output
Connection method	Screw connection
Connection type IN	Screw terminal blocks
Connection type OUT	Connection line
Connection method	Screw connection
Screw thread	M3
Tightening torque	0.6 Nm
Stripping length	6 mm
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²

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Connection data

Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	26 ... 16

Standards and Regulations

Standards/regulations	DIN EN 61643-21
	EN 60079-0
	EN 60079-11
	EN 60079-26

General

Maximum inner capacitance C_i	2 nF
Maximum inner inductance L_i	1 μ H
Max. input current I_i	350 mA (T4,T5,T6/ $\leq 50^\circ\text{C}$)
Max. input voltage U_i	30 V
Maximum input power P_i	3 W

Conformity / approvals

ATEX	# II 1G Ex ia IIC T4...T6 Ga
IECEX	Ex ia IIC T4...T6 Ga

Classifications

eCl@ss

eCl@ss 4.0	27140201
eCl@ss 4.1	27130801
eCl@ss 5.0	27130801
eCl@ss 5.1	27130801
eCl@ss 6.0	27130807
eCl@ss 7.0	27130807
eCl@ss 8.0	27130807
eCl@ss 9.0	27130807

ETIM

ETIM 2.0	EC000943
ETIM 3.0	EC000943
ETIM 4.0	EC000943
ETIM 5.0	EC000943



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Classifications

UNSPSC

UNSPSC 6.01	30212010
UNSPSC 7.0901	39121610
UNSPSC 11	39121610
UNSPSC 12.01	39121610
UNSPSC 13.2	39121620

Approvals

Approvals

Approvals

EAC / EAC

Ex Approvals

IECEX / ATEX / INMETRO

Approvals submitted

Approval details

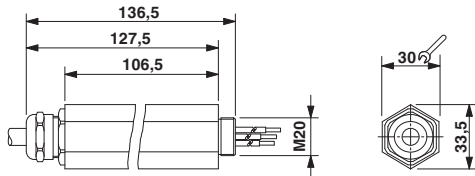
EAC

EAC

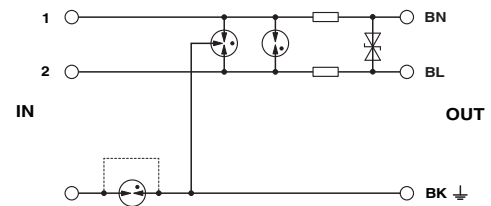
Drawings

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Dimensional drawing



Circuit diagram



Application drawing

